

WADE  
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# NACAT NEWS

VOL 37

AUGUST 2023

NO.4





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***NACAT News is Published SIX Times per Year!***

### DEADLINE DATES

October 2023 issue - September 10, 2023

December 2023 issue - November 10, 2023

February 2024 issue - January 10, 2024

April 2024 issue - March 10, 2024

June 2024 issue - May 10, 2024

August 2024 issue - July 10, 2024

The latest advertising size and rate information can be found at [www.nacat.org](http://www.nacat.org).

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# Allied Members

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OF AUTOMOTIVE TEACHERS







## NACAT PRESIDENT'S UPDATE

TOM MILLARD

WARREN TECH

Greetings from your President! I hope this finds you not too hot and dry, but not soggy and wet.

This has been one crazy year with the weather. Extreme heat and, when it is not as hot, severe flooding. This is about the end of our summer break for most of us. The weather in Texas for the NACAT conference was hot and humid, and we even got some rain a couple days. It was great seeing all who were able to attend. There was great training available again as usual. The after-hours discussions and problem solving happened every night. I think most would agree that this is one of the best parts of the conference. The family activities were enjoyed by all, even though it was very hot at the zoo and the weather was consistently testing comfort levels.

We are still working out details for the 2024 conference. Once the board is able to finalize details, we will share information on the website, via social media, and in NACAT News.

Our new Mentor Training is going well. The next opportunity to participate will be on [August 3rd at 12:00 PM Central Time with "How to Start the Year Off Right."](#) The training is available to any and all NACAT members, whether new to teaching, only having a few years of experience, or a seasoned veteran. We hope you can [join us](#).

We have a great Families of NACAT Committee, and there is a [Facebook group for Families](#) which we encourage you to visit and become a member. Your Families of NACAT Chair is Tamber Nellinger, and the Vice Chair is Bonnie Millard. The Families of NACAT Committee will be looking for family activities for the 2024 conference as well as future conferences. Please wish them luck in helping expand our family activities. Share your ideas within the [NACAT Family Facebook group](#).

Our membership numbers have risen over the past year. We feel the future of NACAT is strong. The organization will keep growing because of the strength of your board and the input from our members. We had a great group of members run for the open board positions. I believe it was one of the largest groups of candidates we have had in many years.

This will be my last letter to be posted in the NACAT News since my term of office ends August 31. I have enjoyed serving as your President. It has been a long and arduous term of office for me, and looking back it would have been an even longer path if I had not had a **FANTASTIC** group of board members to get us through all the changes that have been put in front of your organization. It is not an easy time we are in with excessive heat, political unrest around the world, flooding, and a long fire season ahead of us. I am confident that, thanks to our members, our organization will persist, become stronger, and continue to offer industry-leading family-friendly training conferences. I am looking forward to all the new changes and the upcoming events on the horizon.

NACAT is **"For Automotive Teachers, by Automotive Teachers."**



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## Getting To Know...

### ...Wade Johnson, Harper Charter School

Hello, my name is Wade Johnson. I am a newly elected NACAT board member and I will start my duties in August of this year.

I would like to tell you a little about me and how I made it to where I am today. I was born and raised on a 400 head cattle ranch in Harper, a little Eastern Oregon town of approximately 120 residents. I spent my childhood on 425 acres and had access to unlimited public land as a playground! I don't think that I caught the mechanical bug, I think I was born with it. My parents told me that I was always tinkering with anything I could get my hands on, many times getting in trouble for disassembling things that didn't need to be touched. I could not satisfy my curiosity for how everything worked. I once cut apart the new bike that I got for Christmas to make a pedal car. It took my parents a long time to get over that incident!

When I was very young, I helped with daily chores like feeding animals, driving the tractor for Dad, helping Mom in the house, and other small jobs. By the time I was 12 years old, my dad turned me loose and let me run various pieces of farm equipment on my own, and I loved every minute of it! Anyone that has been around equipment knows that repairs and maintenance are a daily task and just part of the job. I developed a strong liking for not only repairing tractors and equipment but building mechanical skills and finding a love for figuring out how things worked and why they failed. At 14 years old I had proven to my parents that I was capable of handling myself and I was trustworthy enough to work outside of the family ranch. I used the skills and work ethic learned at home to start saving money for college.

Much of my journey through both of my professional careers has been learned in the school of hard knocks. My high school did not have an Automotive Program. It had a shop with some tools and a teacher that would lend a hand if needed. The class was called "metal shop". You could weld, or work on your vehicle. There was no established curriculum or any tests to take. My classmates and I had a vast background in repairing farm equipment, vehicles, and motorcycles. We had plenty to keep us busy. We rebuilt engines, replaced clutches, and even swapped a small block Chevy into an FJ40 Land Cruiser among many other projects. By my senior year of high school, I had satisfied most of my required credits and convinced the principal and shop teacher to let me spend most of my school day out in the shop. I couldn't get enough time in the shop to satisfy my need for tinkering.

During the second semester of my senior year, one of my teachers arranged a paid internship at Keller's Auto Parts and Service in Vale, Oregon about 20 minutes down the road. I spent 2 days per week working in the repair and machine shop and the other 2 days at school. I loved working at my internship, but it sure was a rough transition! This was a busy shop and everything I thought I knew from working on farm equipment and high school shop class went out the door. It was a steep learning curve and I received enough hard knocks that it almost broke me! During this same time at school, I had gotten the results of my ASVAB test. It showed that my mechanical aptitude was off the charts and I should pursue mechanical repair as a pathway to my career. My experience at the internship and the ASVAB results gave me the confidence I needed to commit to enrolling at Wyoming Technical Institute when the recruiter came to visit us at school.

Upon graduating high school in May of 2000, I moved to Laramie, Wyoming, and earned a certificate in Automotive Technology. While at Wyoming Tech, with the help of my instructors, I found another passion.

*CONTINUED ON PAGE 8*

I had never truly been introduced to basic electrical theory, electronics, computer-controlled devices, and other new technology. I remember spending hours on the phone with my dad telling him about the new things I learned at school. While most people were afraid of touching anything computer controlled, I couldn't wait to hook up a scan tool or find the wiring diagram to discover how it worked. Toward the end of my time in Laramie, I knew two things. I wanted to move back somewhere close to home and I wanted to work in a new car dealership so I had access to the most current and upcoming technology. Excited to continue on after school, I sent my resume to every new car dealership along the I-84 corridor from Baker City, OR to Boise, ID. These days, we all know that there is a technician shortage and there is most likely a vacancy at every shop in every town. This was not the case during the winter of 2000. Every follow-up call resulted in the same response from service managers. "We are fully staffed right now, but we will keep your application and resume on file". Just when I was about to give up and look elsewhere I got a call from the local Chrysler Dodge Jeep dealership just 45 minutes from my hometown.

In January 2001, I started working at Action Chrysler Dodge Jeep in Ontario, OR. I was very excited to go to work every day to learn everything that I could from the senior technicians. I took every opportunity available to assist them and ask every question possible. My service manager, John Milleon, saw how eager I was to learn so he started to send me to every factory training session possible. It didn't take long before I gained ASE and Chrysler Master certification status and was advancing through the ranks at the dealership. During this time I met and married my wonderful wife of 19 years, Lindsey in 2004. Soon after we started a family. In 2005 my first daughter, Bennett, was born, in 2007 my second daughter, Kamrie, was born, and in 2011, my son Troy rounded out the bunch! My greatest achievement and love in life is being a father.

After a decade of dealership life, I felt ready for a change of pace. I had always thought of teaching what I had learned to other people, but that required a traditional college education. As a working family man, that was not in the cards. So I put my nose to the grindstone and kept working along. As fate would have it, 3 years later our family was looking to move out of our subdivision and find a little more space to call home. We settled on a home with 3.5 acres surrounded by farm ground. When introducing ourselves to the new neighbors, I found out that we had moved next door to the superintendent of my high school alma mater. It turns out that about the same time that I was thinking of a change of pace, he was thinking about starting an Automotive Program at Harper High School.

My neighbor and I talked over the fence as neighbors do and we found out that Oregon offered a non-traditional pathway for new Career Tech Ed teachers to come from the industry and share their vast industry knowledge. So needless to say, after 14 great years, I packed up my toolbox and said goodbye to dealership life. It was very hard to leave great coworkers and friends but I was very excited for a new journey. Most of all, I was excited to offer Harper High School students their very first CTE career pathway program in school history.

The transition from industry to education was much harder than I expected. On top of being a new teacher, I was tasked with starting an Automotive Program with nothing more than an empty building and a two-post hoist. At the time I didn't know how vast the CTE world was, I had a lot to learn. I had a very supportive school administration and school board but we were all new to the CTE game. I felt like I was underwater, but little did I know some great support was on the way. My former service manager became my first industry partner and also my first advisory committee member, and soon after, many of the connections I made while at the dealership jumped in to help. During my third year of teaching, our local education service district hired several retired teachers to be peer mentors to us new teachers. What a great benefit this was, as it felt like the life raft I needed to stay afloat.

I couldn't have asked for a better support team! I was introduced to Drew Barnes, current Auto instructor at Vale High School and NACAT's next President, Merle Sauders, a well-known retired Vale High School Auto

CONTINUED ON PAGE 15



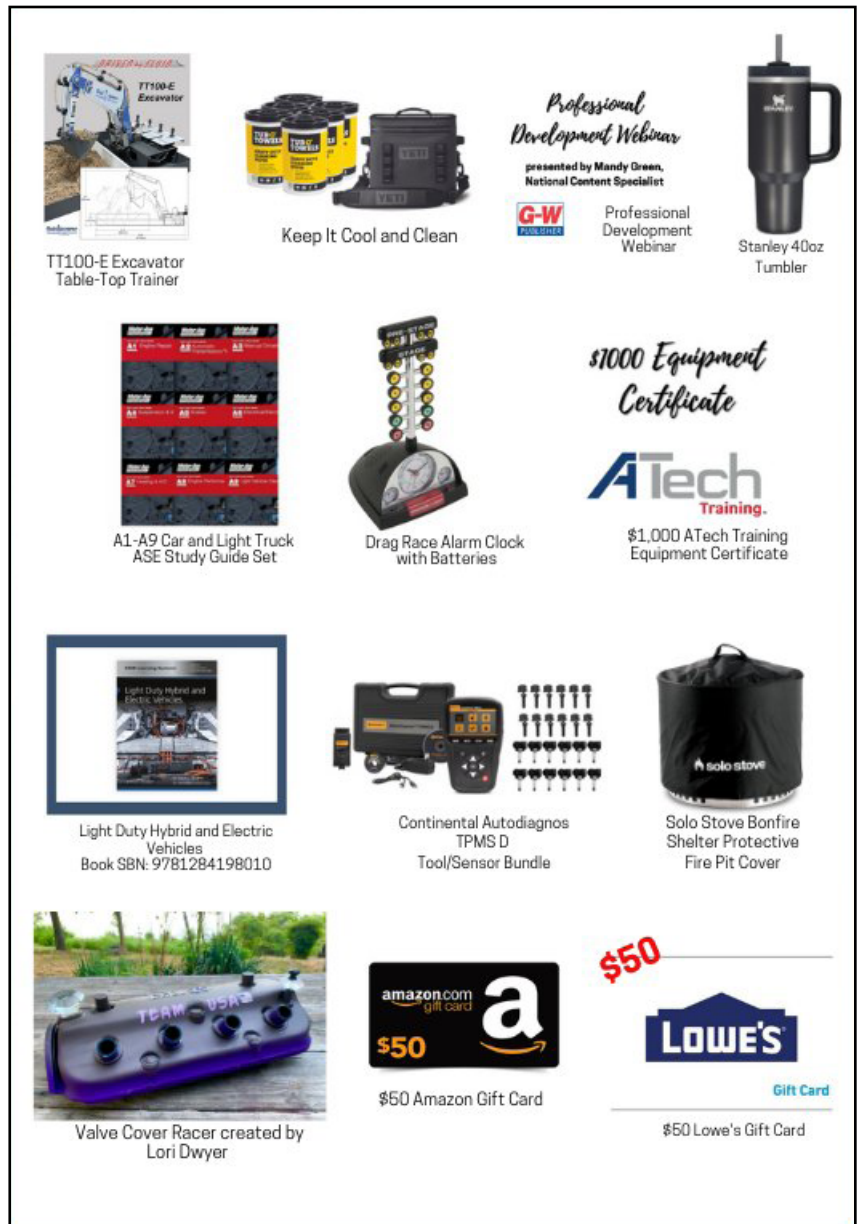
# NACAT RAISES \$2687 TO SUPPORT FUTURE AUTOMOTIVE SCHOLARSHIPS

Thanks to the generosity of the donors and bidders, both in person and online this year, NACAT was able to raise \$2687 during the annual conference fundraiser to support future automotive scholarships. For the first time, bidding took place online as NACAT hosted the silent auction and raffle on auctria.com. A special thank you for all who donated, bid, or purchased.

Ryan Heller won \$135 through the 50/50 draw and graciously donated it back to the scholarship fund. THANK YOU, Ryan!

## Donated items included:

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Thank you to those who have either joined or renewed  
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## MITCHELL 1 NAMES JACK FOWLER 2023 AUTOMOTIVE TECHNOLOGY OUTSTANDING STUDENT



**Mitchell 1 Automotive Technology  
Outstanding Student, Jack Fowler (C)**

Jack Fowler, from Fredericktown High School (Ohio), has been named **2023 Mitchell 1 Automotive Technology Outstanding Student**. Each year, Mitchell 1 recognizes one U.S. or Canadian student for outstanding achievement in automotive technology and auto shop repair scholastics. Fowler will receive a \$2,500 scholarship for his accomplishments. The scholarship is administered through the University of the Aftermarket Foundation.

Fowler will be attending the University of Northwestern Ohio in the fall of 2023 in the High Performance Motorsports Technology program. He won first place at the 2023 SkillsUSA State Competition held in Columbus, Ohio in the Automotive Service Technology division and has earned several ASE entry level automotive certifications.

To be eligible for the Mitchell 1 Automotive Technology Outstanding Student scholarship, an applicant must be a current student majoring in automotive technology/auto shop repair course work and meet the following criteria: be nominated by his/her NACAT instructor, maintain a minimum overall 3.0 GPA, have plans to attend (or already be enrolled in) an accredited college or university and be a U.S. or Canadian citizen.

**About Mitchell 1:** Headquartered in San Diego, California, Mitchell 1 has been a leading provider of repair information solutions to the motor vehicle industry for more than 100 years. Mitchell 1 offers a complete line of integrated repair shop software and services to help automotive and commercial truck professionals improve productivity and profitability. Mitchell 1 is a recipient of the ASE Blue Seal of Excellence award and was recognized by Frost & Sullivan in 2018 with the North American Customer Value Leadership Award. For more information about Mitchell 1 products and services, visit the company's website at [mitchell1.com](http://mitchell1.com).

Congratulations, Jack!

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## CARL BORSANI RECEIVES NACAT AWARD OF APPRECIATION

Carl Borsani was recognized with the NACAT Award of Appreciation during the 2023 NACAT Conference & Expo in Houston, Texas.

"The Award of Appreciation is to give recognition to a company or individual who has gone above and beyond for NACAT and the automotive industry," said NACAT President Tom Millard. "This company launched a [new benefit program](#) that helps not only our educators and their students, but also supports the association. The addition of this benefit has helped reach new members. I congratulate and thank Carl Borsani with Automotive Student Testing!"

### The Automotive Student Testing NACAT Benefit:

*Current and new NACAT members are now eligible for a free semester of unlimited access for their entire class. Valued at \$23/student and could be worth thousands for larger classrooms. One free semester per NACAT member.*

*Congratulations, Carl!*



**Carl Borsani, Automotive Student Testing, receives NACAT Award of Appreciation.**

We can only see a short distance ahead, but  
we can see plenty that needs to be done.

Alan Turing

## 2023 FRIEND OF NACAT AWARD: HEATHER SEBBEN AND HAMILTON & ASSOCIATES



**Hamilton & Associates' Sheri Hamilton (L) and Heather Sebben with NACAT President Tom Millard**

NACAT President Tom Millard presented the 2023 Friend of NACAT award to Heather Sebben and [Hamilton & Associates](#) at the recently concluded NACAT Conference & Expo in Houston, Texas.

"The Friend of NACAT award recognizes an automotive industry company or partner that has provided value to NACAT" declared NACAT President Tom Millard. "Heather Sebben, Sheri Hamilton, and Hamilton & Associates are immense value adding partners in NACAT's automotive education endeavors. From the time they came on board in January 2022 they have brought fresh ideas, procedures, and programs which always seek create new or extended benefits to all levels of NACAT member. The organization and the annual conference have greatly benefited from their association and event planning expertise. We are very thankful they are so committed to NACAT and the automotive education industry."



**Heather Sebben (L), Sheri Hamilton, and NACAT President Tom Millard**

The Friend of NACAT has been previously awarded to the late Fred Hines and ATech Training (2007), Cengage (2008), Mitchell 1 (2009), Snap-On (2010), MACS (2011), Gates (2012), ConsuLab (2013), CDX (2014), ACDC Hybrid/EV Training (2015), the late Bob Chabot (2018), Southern Alberta Institute of Technology (2019), and James Curry (2022).

*Congratulations, Heather and Hamilton & Associates!*

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## THE NACAT CONFERENCE: A FAMILY FRIENDLY WEEK OF LEARNING, SHARING, AND FUN!

The NACAT Conference is an event where educator **FAMILIES** can come and make lifelong friends. It is not just a conference aimed at providing education. Yes, it is great at doing that, but NACAT works to ensure spouses, significant others, children, or whomever is brought with an attendee has a chance to have a week filled with fun and fellowship. There is a BBQ, annual valve cover races, and a special family program that is created by a Families of NACAT Committee which is co-chaired by the wives of NACAT members. Take a look at a small sampling of what the family activities during the 2023 NACAT Conference & Expo.





instructor, and Les Linegar, a retired Agriculture teacher with 30+ years of experience. All of these mentors took me under their wing and continue to guide me to this day even though the mentor program is no longer active. I thank them for the endless resources, hours spent propping me up and all of the miles driven to visit my classroom. They are truly the reason that I survived the transition from industry to getting my Auto Program from an empty shop to a fully equipped approved Program of Study in a short period of time.



One of the best things my mentors did was introduce me to NACAT in 2017. I was very excited to attend my first conference in Detroit, but my trip there was a little rough. My wife and I left a family reunion early, drove home, packed, and caught a few hours of sleep before heading to the airport at 4:00 am the next morning. With a little sleep in my eyes, I got on the freeway. I had just picked a radio station and set the cruise control at 80 MPH when I heard my wife calmly say "deer". I looked up from



the cruise control buttons and saw a doe standing in my headlights! I hit the brakes and held the steering wheel tight waiting for impact, knowing I needed to retain control of the pickup as I hit the deer at close to 80 MPH. The next thing I knew, I heard a loud roaring sound and saw a ton of sparks out my driver's window. It seemed like it took an eternity to get stopped. When we came to a full stop, I looked in the mirror and saw the dry July grass on fire with the early morning breeze accelerating the flames. I went to get out to try to put the flames out but my door was jammed shut! I told my wife to "get out!" Once I was out, I went to grab

my shovel from the back of the pickup only to realize that I removed all of my belongings because my pickup was going to be parked at the airport all week. When my wife dialed 911, she had to ask for a police officer, a tow truck, and the Rural Fire Department! Luckily we were able to rebook a later flight to Detroit and I had a heck of a story to tell once we made it to NACAT 2017. I found out that throughout the conference I was quickly identified as "The guy that hit a deer and started the interstate median on fire" with pictures being shared at the traditional nightly impromptu get-togethers on the patio.



I am sure glad that my wife and I made it to our first NACAT conference. It was such a great experience! I made some great connections and took home a ton of motivation, and tools to implement into my classroom. For the first time, I felt truly prepared to tackle the school year ahead of me. By the fall of 2017, I was in full swing of working toward my full licensure as a certified teacher, chartered a new SkillsUSA chapter, and started preparing my first team of students to compete at an Auto Skills competition. With such a great support system between my mentors, advisory committee, and NACAT, things were getting easier and I was now able to focus on offering a deeper curriculum for my students and search for funding to further develop the program.



I am wrapping up my 8th year teaching at Harper High and I am now in my 6th year as a member of NACAT. As a newly elected board member, I am excited to support the great organization that has helped me to succeed along my journey! I greatly enjoyed seeing the familiar faces that I have become friends with over the years at the 2023 NACAT Conference & Expo in Houston. I would like to thank my mentors, NACAT friends, and my family for playing a pivotal role in my success since I made the transition from industry to education. It gets better every year!



## HYBRID & ELECTRIC VEHICLE CORNER

CURT WARD

PROFESSOR AT JOLIET JUNIOR COLLEGE

### *My Electric Vehicle Will Not Charge*

As I write this article the summer instructor conference schedule is under way. This is a fantastic time to get great training, fellowship with fellow instructors and get reenergized for the fall term. One of the topics that came up during a recent conference was EV charging. Specifically, what to teach as it relates to a non-charging event. One of the challenges in this type of problem is that the malfunction might be related to the vehicle, the charging equipment, or the driver's ability to achieve a good connection at the vehicle's charging port. In this article I will highlight the process of testing the onboard charging module in the vehicle and the charging station or cable with an EVSE tester. I am using our Nissan Leaf for the test; however, most electric vehicles will test in a similar manner. It should be noted that our vehicle and charging equipment is in proper working condition and the figures included are normal operation.

As with any problem, I always like to begin by verifying the complaint. With the charging cable connected to the vehicle I can visually inspect the charge indicator (**See Figure 1 - Indicator Lamps**). The blue indicator lamps not only indicate that the vehicle is charging, but also approximately how much of a charge is needed to be fully charged.



Figure 1: Indicator Lamps



Figure 2: Scan Tool

If the charge indicator lamps do not illuminate, I prefer to start my diagnosis on the vehicle with a visual inspection. Conditions such as corrosion, cracks, or discoloration at the charge port may indicate a possible problem. Second, use a factory level scan tool and perform a module scan and check for codes. Do not ignore any fault codes. I have found codes that seem unrelated may be the root cause of the problem. The onboard charging module live data stream is a great source of information. It will show items such as relay status, input voltage, system temperature, coolant level and more (**See Figure 2 - Scan Tool**). The vehicle will power on during a charging event, however, it will not go into a "Ready" mode when connected to a charging cable.

Assuming that no problems are found with the vehicle, testing can continue with the charging cable using the EVSE tester. These tools are available from a variety of sources but can be found for as little as \$500 dollars. The tester allows for the testing of the source voltage, and the pilot signal. In my demonstration the EVSE tester is plugged into the charge cable. Using a standard DVOM I can determine that 120 volts AC is available on the cable and that the charge cable can see the request for voltage from the vehicle (**See Figure 3 - DVOM**). Additionally, I can connect a scope to the EVSE tester and verify the pilot communication between the cable and the tester is operating at the proper voltage levels (**See Figure 4 - Pilot Communications**).

*CONTINUED ON PAGE 17*



Figure 3: DVOM



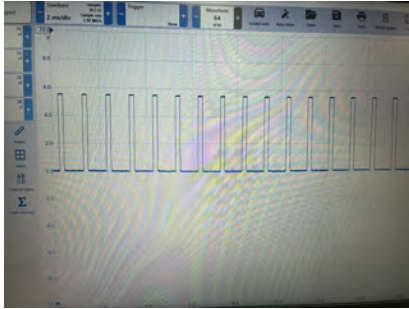


Figure 4: Pilot Communications

The last part of my diagnosis is to take the vehicle to a public charging station. I use the Charge Point charger on my campus (**See Figure 5 - Charging Station**). Using the app on my phone I can verify the vehicle will communicate with and receive a charge from a public charging station. Using these tools and processes, I can test all systems and components related to the vehicle.



Figure 5: Charging Station

Despite these efforts, it is possible a problem could still exist. Many times, when a phone is updated, there is a need to update an app to restore functionality. Public charging stations rely on an Internet connection to communicate. If the Internet is offline, it is likely the charging station will not operate. Lastly, issues with local power grids can cause a public charging station to not charge, or to charge slowly. The Society of Automotive Engineers just released a set of standards for a charging station repair technician; however, that is an article for another day.

I will finish this article with the same offer I make after each of my presentations. If you are interested in getting started in the process of adding hybrid and electric vehicles to your curriculum or want more information, please feel free to [reach out](#). I am more than willing to sit down in-person or online and share my experiences. Are you looking for a classroom textbook? [Reach out to Pearson](#) and ask for a review copy of the all-new [Electric and Hybrid Electric Vehicle](#) text that Jim Halderman and I co-authored. It is a comprehensive text covering all the latest information on the subject.

*By Learning You Will Teach, By Teaching You Will Understand.*

Latin Proverb



## CYNDE SAGENKAHN RECEIVES LISSE DUVIC SCHOLARSHIP



Cynde Sagenkahn (R) receives the Lisse Duvic Scholarship from NACAT Vice-President Drew Barnes and his wife, Whitney.

Cynde Sagenkahn was awarded the Lisse Duvic Scholarship at the 2023 NACAT Conference & Expo in Houston, Texas.

Whitney Barnes, wife of NACAT Vice-President Drew Barnes, presented the scholarship stating, "This scholarship was in recognition of a beautiful lady that left us all too soon. The wife of NACAT board member Martin Duvic, Lisse was always by his side at the NACAT conferences. She always welcomed new spouses and their families with open arms. Tragically, cancer took her just a few short months after being diagnosed following last year's conference. Martin and her kids wanted to continue her influence at the conference by providing a scholarship for a NACAT conference attendee's family member to attend and enjoy the socialization and activities that Lisse so loved. This year's recipient is Cynde Sagenkahn."

Barnes continued, "This was Cynde and Calvin's, her husband, first year attending the NACAT Conference & Expo. It is Calvin's first year as an automotive assistant professor at a local college. We are so excited for both of them to join us. Cynde's bubbly personality is the perfect fit for Lisse's first annual scholarship."

*Congratulations, Cynde!*

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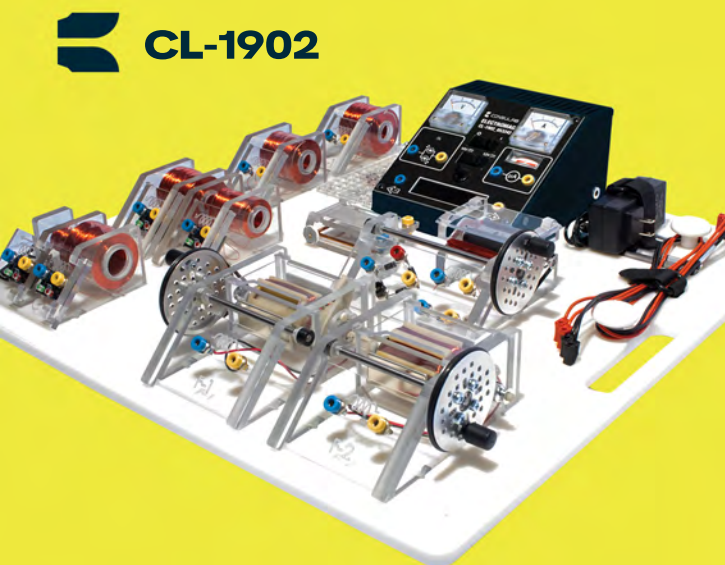
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## MENTOR ROUNDTABLE NEWS

ED MARTIN

### PICKENS TECHNICAL COLLEGE

Whether you are just entering your teaching career, or you are a seasoned instructor, there are times when you could use some help problem solving issues within your program. NACAT recognized this need and created the mentor program to give instructors from all experience levels a way to connect live with other instructors to problem-solve these issues.

The Roundtable sessions hosted so far have included classroom engagement strategies and one session where we let the participants guide the discussion based on need. This is truly a concept where you can ask the question "What's in it for me?" and answer the question by the end of the session.

NACAT members receive an email with the date and time of each upcoming session along with the topic of discussion if one has been designated. Members can choose to register through a link sent within the email. NACAT is also seeking member input as to what topics will be upcoming for these roundtable sessions.

NACAT is proud to have the motto *"For Automotive Teachers, by Automotive Teachers"*, and this mentor program exemplifies that. We all know that many times when we go to conferences or industry training classes we learn just as much during lunch or breaktime just by talking with the other participants as we do in the actual classes. The downside to this is who wants to wait an entire year before we have a chance for this type of interaction again? With these NACAT roundtable sessions, you don't have to wait that long.

The next Roundtable discussion will be held on **August 3rd at 12:00 PM central time**. The topic is **"How to Start the Year Off Right"**. Please consider [registering](#) for this session whether you need help, or you want to bring your expertise to the discussion. We would love to serve you this way.

[Join with Us and Let's Learn Together!](#)

## NEW NACAT CONFERENCE DELEGATES ATTEND FIRST-TIME ATTENDEE MEETING



**NACAT Board Chair Steve Gibson  
addresses NACAT Conference & Expo  
First-Time Attendees.**

An important and highly anticipated event at every NACAT Conference & Expo is the orientation of new attendees through a sponsored "First-Time Attendee Meeting" where NACAT officers, board members, and long-time members can help those who are just experiencing the conference make instant connections. Dialog often centers on what it means to be an automotive teacher, the composition of NACAT, and what to expect at the conference.

This year's meeting was sponsored by [Al Santini](#) and in Honor of Former President Darrell Deeter. It was a full room, as over 50% of the conference attendees were at their very first NACAT Conference & Expo! What an infusion of new ideas, energy, and perspectives!



We would like to thank all the first-time attendees for coming to the 2023 NACAT Conference & Expo. We hope to see each of them as second-time attendees in 2024 at which time they'll be able to help the next group of first-time attendees.

THANK YOU to ALL who participated!

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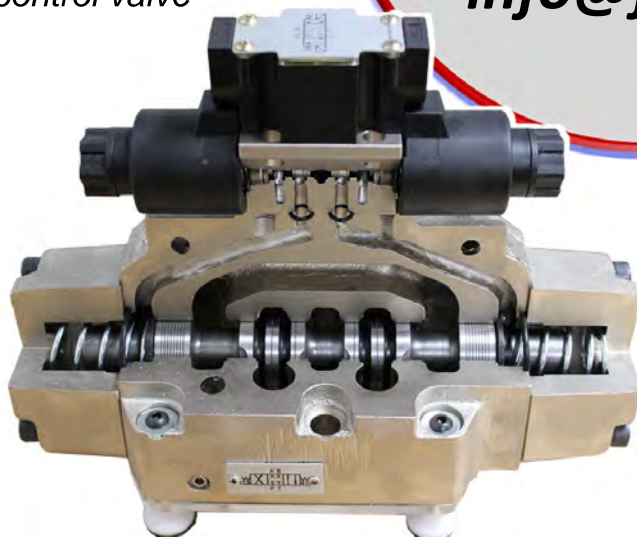


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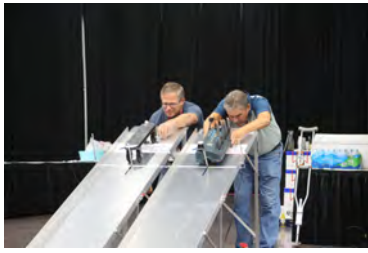


# NACAT VALVE COVER RACING: DESIGNING A DOWNHILL DAREDEVIL TO CONQUER THE CONTINENT!

The annual NACAT Conference Valve Cover Races, this year sponsored by [ConsuLab](#), were first run at the 1999 conference. Since that time the event has grown in popularity with all who venture to a NACAT conference. There are outstanding racers crafted in Canada and many gravitational chariots made in the USA. Women, men, kids, and those who aren't quite kids anymore endeavor to stay just within the rules to make the quickest accelerating,

highest velocity obtaining, straightest coasting vehicle to ever run down the [ATech](#) Valve Cover Race Track.

CONGRATULATIONS to NACAT 2023 CHAMPIONS  
Tim Dwyer (USA) and Jacob Bronsther (Canada)!



## JULIA JOHNSON RECEIVES JACK ERJAVEC INNOVATIVE INSTRUCTOR AWARD



**2023 Jack Erjavec Innovative Instructor, Julia Johnson (R)**

Julia Johnson, Professor of Automotive Technology at [Skyline College](#) in San Bruno, California, was named the 2023 Jack Erjavec Innovative Instructor by President Tom Millard at the 2023 NACAT Conference & Expo in Houston, Texas.

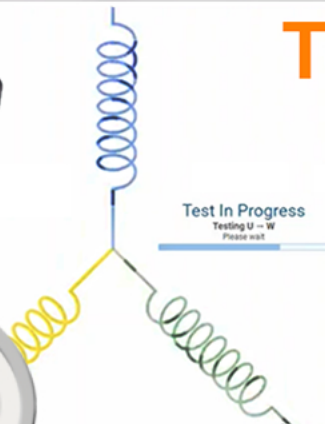
"This year's recipient of the Jack Erjavec Innovative Instructor Award is truly extraordinary" declared NACAT President Tom Millard. "Her accomplishments are many and her energy level is unmatched. She created the Entry Level Technician certificate program that consists of significant hands-on training in the basic skills needed for their first job in the industry as well as the "soft skills" to help students become good employees, not just good technicians, and an internship program to help place them in entry level jobs in shops that are a good fit for their interests and abilities." Millard continued, "She has also written and received several grants, helped develop the "Heart Wrenchers" car club for female students to assist with projects to help low income families get maintenance and repairs, and has taken students to SEMA many times under the student program. The list goes on including Faculty Advisor for the Skyline College Auto Tech Club, and much more."

The \$2500 Jack Erjavec Innovative Instructor Award, sponsored by [Cengage](#), funds a one-year NACAT membership and attendance to the annual NACAT Conference. The award is open to any automotive technology instructor who works at a public or private secondary or post-secondary school or training center in North America. Full-time faculty nominees will receive higher consideration than part-time faculty nominees.

*Congratulations, Julia!*

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## ASE ANNOUNCES LEADERSHIP CHANGES: ZILKE AND SERRATORE TO RETIRE AT END OF 2023

ASE President and CEO Tim Zilke and Senior Vice President of Communications Trish Serratore have announced their plans to retire on Dec. 31, 2023.

Zilke joined the National Institute for Automotive Service Excellence (ASE) in 1991 and was promoted to president and CEO in 2008. Serratore joined ASE in 1988 and was promoted to senior vice president of communications in 2008. She served six years as president of the ASE Education Foundation from 2012 to 2017, before rejoining ASE as senior vice president.

"The ASE board is overwhelmed with gratitude for Tim Zilke building an impactful organization. He has led ASE through good times in our industry, and challenging ones, with unwavering enthusiasm and commitment. Under his leadership, ASE has evolved, grown and introduced many new initiatives to support technicians, service repair business, education and our industry overall," said Homer Hogg, ASE chair and vice president, Truck Service, Travel Centers of America.

"The industry will also miss Trish Serratore and her passionate promotion of ASE and ASE Certified technicians for so many years. As the familiar face of ASE, she too has always had the industry's best interests at heart. We wish Tim and Trish all the best in their retirements," Hogg added.

Dave Johnson has been named ASE president and CEO Designate effective July 12. Johnson will assume the title and responsibilities of ASE president and CEO on Jan. 1, 2024 upon Zilke's retirement. Donna Wagner has been named as the new vice president of industry and media relations for ASE.

*THANK YOU, Tim & Trish, for all you have done for our industry!*



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## NATURAL LANGUAGE PROCESSING & YOU

JAMES CURRY

NACAT NEWS EDITOR

Last issue (June 2023) I placed a graphic question on page 27 asking if you use AI in the classroom. It was linked to send an email so that I could hopefully collect examples and share experiences within the newsletter. Most likely due to the time of year, with it being summer conference and vacation season, I have not yet acquired responses. No worries, I'll keep asking as all who are inquisitive and seek knowledge do.

I bet most of us have watched "The Terminator", whether during the original release in 1984 or in subsequent showings on VHS, DVD, BluRay, cable TV, or streaming. The fictional rise of the machines and the use of artificial intelligence against humanity are engrained acts of fiction within pop culture. But now, with modern AI, does the line between fiction and non-fiction begin to blur? No, I am not asking if you think the machines will rise up or if AI will be used against us. That's for a different discussion regarding deep fakes, photographs created with artificial intelligence, and the moral implications of their use. That's an area where James Cameron, director and co-writer of "The Terminator", advises caution. "I warned you guys in 1984 and you didn't listen," Cameron recently told CTV in an interview. "I think the weaponization of AI is the biggest danger. I think that we will get into the equivalent of a nuclear arms race with AI, and if we don't build it, the other guys are for sure going to build it, and so then it'll escalate." What I am asking is if we are now getting to a point where it becomes a norm to have artificial knowledge shared where in the past there may have been experiential learning?

To illustrate just what artificial intelligence can do, I went to ChatGPT and asked it to create a few items. I am going to share those. Are they right? Are they wrong? How will you address when someone brings the information before you? Is the information that is given dangerous, helpful, or simply troublesome?

### **Example 1: "Write a Procedure for checking on why an electric vehicle is having surges."**

Diagnosing surges in an electric vehicle can be a challenging task, but here is a step-by-step procedure to help you identify potential causes:

#### **Procedure for Checking Electric Vehicle Surges:**

**Safety First:** Always prioritize safety when working with electric vehicles. Make sure to wear appropriate personal protective equipment (PPE) and disconnect the vehicle from any power source before beginning the diagnostic process.

**Gather Information:** Collect as much information as possible from the vehicle owner or driver regarding the nature of the surges. Ask about when the surges occur (during acceleration, deceleration, or at a constant speed), any specific conditions that trigger the surges, and if there have been any recent modifications or repairs done to the vehicle.

**Visual Inspection:** Conduct a visual inspection of the electric vehicle's exterior and interior. Look for any visible damage, loose connections, or signs of wear and tear. Pay particular attention to the battery, motor, wiring harness, and other electrical components.



**Please click the image to share your experience with AI in the classroom.**



**Check Battery Health:** A weak or deteriorating battery can cause surges. Use appropriate tools to check the battery voltage and capacity. If the battery is old or damaged, consider replacing it.

**Inspect Charging System:** Examine the charging system, including the charging port and charging cable, for any signs of damage or malfunction. Ensure that the charging process is functioning correctly and that the battery is charging to its full capacity.

**Check Motor and Power Electronics:** The electric motor and power electronics (such as the inverter) are critical components of an electric vehicle. Inspect these components for any signs of damage, overheating, or loose connections.

**Scan for Error Codes:** Use a compatible diagnostic scanner to check for any error codes stored in the vehicle's onboard computer system. These codes can provide valuable insights into potential issues.

**Test Drive and Monitor:** Take the electric vehicle for a test drive to replicate the surge issue. Pay close attention to when the surges occur, under what conditions, and if any warning lights illuminate during the surges.

**Data Logging:** If possible, use specialized equipment to log data from various vehicle sensors during the test drive. Data logging can help identify irregularities and anomalies that may be causing the surges.

**Review Manufacturer Technical Information:** Refer to the electric vehicle's service manual or technical documentation provided by the manufacturer. It may contain specific troubleshooting procedures for surges or known issues with the model.

**Check Software and Firmware:** Ensure that the vehicle's software and firmware are up-to-date. Some surges can be caused by software glitches, which can sometimes be resolved through updates.

**Consult with Experts:** If you're unable to identify the cause of the surges or if the problem involves complex electrical issues, consult with experienced electric vehicle technicians or the vehicle manufacturer's support team.

*Remember that diagnosing and repairing electrical issues in electric vehicles can be complicated, and in many cases, it may be best to seek assistance from professionals with expertise in electric vehicle systems.*

**Example 2: "Write an article providing the best practices for how to flip an automotive classroom."**

*Flipping the Automotive Classroom: Best Practices for Effective Learning*

The traditional classroom model, where an instructor delivers lectures during class time and assigns homework for practice outside of class, has its limitations. As education evolves, innovative teaching methods like the "flipped classroom" have gained popularity. In a flipped automotive classroom, the typical lecture-style instruction is replaced with interactive and hands-on activities during class time, while students access learning materials, such as videos and readings, outside of class. This approach has proven to be highly effective, especially in technical and skill-based subjects like automotive education. Here are some best practices for flipping an automotive classroom to enhance learning and student engagement:

**Develop High-Quality Video Content:** Creating well-produced and informative video content is the cornerstone of the flipped classroom. Instructors should develop engaging videos that cover essential topics, practical demonstrations, and step-by-step instructions for automotive tasks. These videos can be shared with students before class, allowing them to watch and review the material at their own pace.

**Encourage Pre-Class Preparation:** Clearly communicate the expectations for pre-class preparation. Students should come to class having watched the assigned videos and completed any required readings. This prepares them to actively engage in discussions and hands-on activities during class time.

## ED MARTIN NAMED 2023 NACAT MVP

Ed Martin, an automotive instructor at [Pickens Technical College in Aurora, Colorado](#), was named the 2023 NACAT MVP at the recently concluded NACAT Conference & Expo in Houston, Texas.

Martin has a long history of excellence within NACAT. Not only had he served on the NACAT Board of Directors, he will also become the NACAT Vice-President / President-Elect on September 1, 2023. He will then serve as NACAT President from September 1, 2025 - August 31, 2027. Martin is a committed leader who can teach how to [overcome struggles](#) while striving for success.

*Ed Martin (L) holds the NACAT MVP plaque / clock he was given by past MVP Jason Bronsther.*



"NACAT is truly thankful for members like Ed Martin," said Tom Millard, NACAT President. "The MVP Award recognizes an individual NACAT member who has gone above and beyond for NACAT and the automotive industry. Not only does Ed participate in almost every board and committee call, he also provides valuable feedback and has led the charge on forming NACAT's new Mentor Program. He has donated countless hours through the years to work on resources and to help promote NACAT and the conference."

NACAT would like to once again thank Ed Martin for his devoted service and acts of inspiration. The organization is truly thankful to have him as a dedicated member.

*Congratulations, Ed!*



*Ed Martin (L) receives the 2023 NACAT MVP Award from 2022 MVP Jason Bronsther.*

**"How do I motivate a student who isn't interested?" Get questions like this answered and more!**



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OF AUTOMOTIVE TEACHERS

Join us August 3, 2023 at 12pm  
Central for a  
roundtable discussion on  
"How to Start the Year Off Right"  
must be a NACAT member to participate



# ARTIFICIAL INTELLIGENCE TOOLS FOR EDUCATORS AND RESEARCHERS

This issue addresses the use of artificial intelligence natural language processors but what are some of the other artificial intelligence tools available for an educator? Can the tools help to streamline your tasks and make you more effective or efficient? Maybe. Maybe not. As with all things, the results will depend on use, perspective, and effort. Below are four applications which have been promoted as educator enhancing tools.

**Research Rabbit:** Allows a user to find and organize research papers for themselves and collaborators while creating an easily searchable and filtered collection. It works to learn what you seek and make suggestions for additions.

**Fetchy:** A generative AI-powered platform designed to enable educators to unleash their full teaching potential by simplifying and streamlining the myriad of tasks educators face, including creating engaging lessons, generating newsletters, crafting professional emails, and more. The goal is to empower educators to enhance their teaching methods, optimize time management, and make confident and informed decisions. (\$10 monthly subscription)

**Elicit:** Acts like a search engine to provide credible sources for research queries. It can be downloaded as a desktop app or be used directly from a browser. While answering questions with research is the main focus of Elicit, there are also other research tasks that help with brainstorming, summarization, and text classification.

**GradeScope:** Provides a manner so an educator can quickly administer, organize, access, grade, and regrade students' work. It allows teachers to add courses, create and edit different assessments, and check digital, paper-based, and code assignments. Gradescope supports all subjects and variable-length assignments (problem sets & projects) as well as fixed-template assignments (worksheets, quizzes, bubble sheets, and exams). (Basic plan is free. Institutional plan requires contacting a sales representative.)

*Please note that some of the tools are paid services. They are not being endorsed, just shared.*

## NACAT NAMES CHLOE LIMBURG LARRY COTTEN MEMORIAL SCHOLARSHIP RECIPIENT



Chloe Limburg was named the 2023 Larry Cotten Memorial Scholarship recipient during the NACAT Conference & Expo which was held July 10 - 13 in Houston, Texas. The \$1000 scholarship is given in memory of Larry Cotten, a NACAT Charter member and former president. Cotten's wife and family established the memorial scholarship, following his death in an accident in 2005, to help pass his passion on to the next generation of collision repair technicians.

Limburg is a student at Lincoln Technical College in Denver, Colorado. She is also an outstanding individual who is using her talents to help those around her. A business, started with her father and named "Rosie's Restoration and Repair" seeks to provide automotive repair assistance to widows and single parents.

"NACAT congratulates Chloe as she embarks on her automotive career," said Tom Millard, NACAT President. "We also would like to thank and congratulate the University of the Aftermarket Scholarship program for the automotive scholarship website, [www.automotivescholarships.com](http://www.automotivescholarships.com), which for the previous academic year helped facilitate the awarding 461 scholarships totaling \$731,350. The platform makes it easy and enjoyable to rate and review applicants with information that is up to date and valuable. We are proud to be a part of helping students, like Chloe, achieve their goals and dreams. We look forward to knowing the composite numbers for the upcoming school year."

Chloe was very gracious in her acceptance, as she stated, "I am so thankful to have been awarded this scholarship. This has been an amazing opportunity for me and it is really helping me achieve my dream."

*Congratulations, Chloe!*

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# MF700-PN Pneumatic Training System

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**Active Learning in Class:** In the flipped automotive classroom, class time shifts from passive listening to active learning. Plan interactive activities like group discussions, problem-solving exercises, hands-on projects, and simulations. Encourage students to collaborate, ask questions, and share their insights.

**Hands-On Practice:** Practical experience is crucial in automotive education. Allocate ample time during class for hands-on practice in workshops equipped with the necessary tools and equipment. Students should apply the concepts they learned in the videos and reinforce their understanding through practical tasks.

**Provide Individualized Attention:** In a flipped classroom, instructors have more opportunities to interact one-on-one with students. Use this time to provide personalized feedback, address individual challenges, and nurture each student's strengths.

**Foster a Supportive Learning Environment:** Create a positive and supportive atmosphere in the classroom. Encourage open communication, respect diverse perspectives, and celebrate student achievements. A supportive learning environment enhances student motivation and engagement.

**Assess Understanding and Progress:** Regularly assess students' understanding of the material to identify areas that require further clarification or practice. Use quizzes, concept checks, and hands-on evaluations to gauge their progress and provide targeted feedback.

**Emphasize Real-World Applications:** Connect the automotive concepts being taught to real-world applications. Highlight the relevance of the material in the automotive industry, and showcase success stories of professionals applying the skills learned in the classroom.

**Encourage Peer Learning:** Facilitate opportunities for students to learn from one another. Peer teaching and collaborative projects can strengthen understanding and build teamwork skills.

**Continuous Improvement:** Gather feedback from students about their experiences with the flipped classroom. Use this input to continually improve and refine the teaching approach. Encourage students to be active participants in the evolution of the classroom structure.

**Embrace Technology:** Leverage educational technology tools that enhance the flipped learning experience. Online learning platforms, discussion forums, and educational apps can supplement the learning process and provide additional resources.

**Involve Industry Professionals:** Invite guest speakers from the automotive industry to share their experiences and insights. Industry professionals can offer valuable perspectives, current trends, and career guidance to students.

*Flipping the automotive classroom is a powerful pedagogical approach that prioritizes active learning, hands-on practice, and individualized instruction. By integrating high-quality videos, interactive activities, and real-world applications, educators can create an engaging and effective learning environment. As students take charge of their learning and actively participate in the process, they are better equipped to excel in their automotive education and future careers.*

**Example 3: "Explain to a new teacher what North American Council of Automotive Teachers is."**

The North American Council of Automotive Teachers (NACAT) is a professional organization dedicated to supporting and promoting automotive education. It primarily serves automotive teachers, instructors, and educators across North America. NACAT's mission is to enhance the quality of automotive education by providing resources, networking opportunities, and professional development for its members.

*Key Objectives and Activities of NACAT:*

CONTINUED ON PAGE 31

## NACAT KEYNOTE ADDRESS:

### AL SANTINI WITH "WHAT I LEARNED DURING 50 YEARS OF TEACHING "



**Al Santini:**  
**"What I Learned During 50 Years of Teaching:  
A Comical Look at Situations that Shaped  
How I Work in Schools with Students"**

**Al Santini** of ConsuLab provided rousing and informative keynote address during the 2023 NACAT Conference & Expo in Houston, Texas. The address was entitled, "What I Learned During 50 Years of Teaching: A Comical Look at Situations that Shaped How I Work in Schools with Students." It was sponsored by [iCEV](#).

You may view Al's address on ConsuLab's YouTube Channel by [clicking here](#).

*Were you there? Did you see this outstanding address live as it happened at the opening of NACAT 2023? If you missed it, be certain to make time to watch it so you can soak in the enthusiasm, lessons, and passion presented.*

**Thank You, Al Santini!**

## MITCHELL 1 NAMES RYAN WASHINGTON 2023 EDUCATOR OF THE YEAR



**Mitchell 1 Educator of the Year,  
Ryan Washington (L)**

Ryan Washington, global automotive technology program coordinator at the Community College of Baltimore County (CCBC) in Hunt Valley, Maryland, has been named the 2023 Mitchell 1 Educator of the Year award winner.

Each year, Mitchell 1 recognizes one of the nation's top teachers for their commitment to educational excellence in the automotive repair industry. Mitchell 1 presented the award at the North American Council of Automotive Teachers (NACAT), Awards Dinner on Thursday, July 13, 2023 in Houston, Texas.

"Ryan was selected as the Mitchell 1 2023 Educator of the Year for going above and beyond to prepare students for a professional career in the auto repair industry," said Nick DiVerde, senior marketing manager, Mitchell 1. "As an outstanding teacher and a master automotive technician, we are pleased to acknowledge Ryan's exceptional contributions to the classroom and the industry as a whole."

As the recipient of the 2023 Mitchell 1 Educator of the Year award, Washington received a complimentary one-year subscription to Mitchell 1's ProDemand® diagnostic, estimating and auto repair information software; a one-year membership to NACAT; and an all-expenses-paid trip to attend the NACAT conference.

The Mitchell 1 Educator of the Year award selection criteria requires that the recipient excel in all ASE automotive tests, including A1 – A8 (Engine Repair, Automatic Transmission/Transaxle, Manual Drive Train and Axles, Suspension and Steering, Brakes, Electrical/Electronic Systems, Heating and Air Conditioning, Engine Performance), as well as the L1 (Advanced Engine Performance Exam).

With over 20 years of experience in the automotive industry, Washington is a certified ASE Master Technician, a Maryland Safety Inspector (MSI) Technician, and a board member of the Chesapeake Automotive Business Association. He also holds a Bachelor's Degree in Automotive Engineering Technology from Ferris State University.

In his position at CCBC, Washington not only teaches all the course offerings but also helps facilitate job placements for students during their first and second semesters.

"While I understand that some students may not ultimately choose to pursue a career as an automotive technician, I believe that I have played a part in equipping them with a skill that can benefit them throughout their lives," he said.



**Professional Development:** NACAT offers various professional development opportunities for automotive teachers, allowing them to stay up-to-date with the latest industry trends, teaching methods, and technological advancements. Workshops, conferences, seminars, and webinars are organized to facilitate learning and skill improvement.

**Resource Sharing:** The organization fosters a collaborative environment where automotive educators can share best practices, teaching materials, and curriculum ideas. This resource-sharing aspect helps teachers enhance the effectiveness of their instructional methods.

**Networking:** NACAT provides a platform for networking among automotive teachers from different educational institutions. Teachers can connect, communicate, and exchange ideas with peers, fostering a supportive community.

**Advocacy:** NACAT advocates for the importance of automotive education and its role in preparing skilled professionals for the automotive industry. The organization works to raise awareness about the significance of vocational and technical education.

**Industry Partnerships:** NACAT often collaborates with automotive manufacturers, suppliers, and industry organizations. These partnerships can lead to opportunities for automotive teachers and students, such as internships, sponsorships, and access to the latest technologies.

**Annual Conference:** NACAT holds an annual conference, which is a flagship event bringing together automotive educators from across North America. The conference features workshops, presentations, hands-on activities, and an expo showcasing the latest automotive products and technologies.

**Recognition and Awards:** The organization recognizes outstanding automotive educators through awards and accolades. Recognitions can motivate teachers and highlight exemplary practices.

**Research and Innovation:** NACAT encourages research in the field of automotive education and promotes innovative teaching methodologies. This focus on research ensures that automotive educators continually improve their teaching practices.

**Student Engagement:** While primarily serving automotive teachers, NACAT's efforts indirectly benefit students pursuing automotive education. Through improved teaching practices and resources, students receive a more enriching and effective learning experience.

*In summary, the North American Council of Automotive Teachers (NACAT) plays a vital role in supporting automotive educators by providing professional development opportunities, fostering a community of collaboration, and advocating for the importance of automotive education. It serves as a valuable resource for new teachers entering the field and helps them excel in preparing the next generation of skilled automotive professionals.*

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Now that you have read three examples in which the natural language processing (NLP) artificial intelligence chat bot developed from [Open AI](#) has written procedures and articles, has your perception changed? Do you suddenly want to ask it about your program? (In full disclosure, I did ask it to tell me about the automotive program at Pickens Technical College where NACAT MVP Ed Martin teaches.) Is it something you would use in your classroom? Would it be useful for students to take an AI generated procedure and then adapt it into a procedure which encompasses industry standards and best practices? Can it be another tool in the box that is only pulled out when the situation is appropriate? Or is it better off not being in or near the classroom?

[Please let me know your thoughts.](#) The Greek philosopher Heraclitus is credited with saying, "Everything changes and nothing remains still; and you cannot step twice into the same stream." (The only thing constant is change.) How will you adapt to this new and evolving technology ([see other applications on page 27](#))?

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